CLAIMS

1. An illuminating device comprising an optical source (S) emitting an unpolarized light beam (F1), a polarizing beam splitter (3) included between first faces (10 and 20) of a first and of a second transparent prism (1, 2), which prisms each have a second exit face (11, 21) both situated within one and the same plane, said first faces and second faces of each prism being perpendicular; the light beam penetrating into the first prism through a third face (12) of this first prism and reaching the polarizing beam splitter (3) that transmits the light with a first polarization direction and that reflects the light with a second polarization direction; the light transmitted by the polarizing beam splitter (3) being transmitted to a third face (22) of the second prism that reflects it toward said second exit face (21) of the second prism, and the light reflected by the polarizing beam splitter being transmitted to said third face (12) of the first prism that reflects it toward said second exit face (11) of the first prism, characterized in that the polarizing beam splitter (3) comprises a grid polarizer (3) situated between the first faces (10, 20) of the first and of the second prism (1, 2).

2. The device as claimed in claim 1, characterized in that the divergence of said light beam (F1) is greater than or equal to 5° on either side of the average direction of said beam.

3. The device as claimed in claim 2, characterized in that the divergence of said light beam (F1) is less than or equal to 10° on either side of the average direction of said beam.

4. The illuminating device as claimed in any one of the preceding claims, characterized in that it comprises a polarization rotator device associated with only one of said second exit faces (21 or 11) of the prisms.

5. The illuminating device as claimed in any one of the preceding claims, characterized in that said grid polarizer is formed on the first face (10) of the first prism (1) or on the first face (20) of the second prism (2).

6. The illuminating device as claimed in claim 5, characterized in that an air gap (4) is provided between, on the one hand, the grid polarizer (3) and said first face of the first or of the second prism (1 or 2) on which it is formed and, on the other, the other first face (10) of the second or of the first prism (2 or 1), respectively, situated facing it.

7. The illuminating device as claimed in any one of the preceding claims, characterized in that the non-right angles of the prisms are substantially equal to 60° opposite the first faces and to 30° opposite the second face, and in that the average direction of said light beam (F1) is substantially perpendicular to the third face of the first prism as it penetrates into this prism.

8. The illuminating device as claimed in claim 7, characterized in that the index of the material of the prisms is less than or equal to 1.5.

9. The illuminating device as claimed in either of claims 7 and 8, characterized in that it comprises a light integrating device (7) having an entry face (70) that is optically coupled to said second exit faces (11, 21) of the prisms and that, receiving the beams reflected by the third faces of the prisms, delivers a beam through an exit face (71) whose illumination is substantially homogeneous over this face.